



SMALLPOX

Agent Information:

DNA, orthopoxvirus. Incubation period 7-17 days. There are two principal forms of disease, variola major and a milder form, variola minor. Variola major mortality is $\geq 30\%$ among unvaccinated individuals. Flat and hemorrhagic smallpox are variations of variola major. While rare, they have increased mortality.

Signs and Symptoms:

- Prodrome: Duration 2-4 days; contagious. Fever (101-104°F), malaise, myalgias, headache, patients usually too sick to carry on normal activities.
- Early Rash: Duration 4 days; most contagious. Rash emerges in the oropharynx and spreads. Highly contagious at this time.
- Rash then spreads to the face and then to the extremities. Usually the rash spreads to all parts of the body within 24 hours. Fever subsides. Rash is centrifugal; lesions evolve at the same rate and at the same stage of development; spread to palms and soles is common.
- 3rd day - lesions become raised bumps.
- 4th day - lesions become fluid-filled and umbilicated. Fever may rise.
- 5th day – pustular rash; sharply raised, round and firm. Pustules then begin to crust over and scab.
- 6th day – resolving scabs; begin to separate and leave scars. Most scabs separate within 3 weeks after rash appears.
- Person is no longer contagious have all scabs have separated. Scabs contain live virus.

Transmission:

Person-to-person transmission primarily via droplets from the oropharynx. Those within 6 feet appear to be at greatest risk. Contaminated clothing or bed linens can also spread the virus. There are no known animal or insect reservoirs or vectors.

Protective Measures:

Persons treating patients with confirmed or suspect smallpox should be vaccinated. In the setting of an early outbreak, care can be provided immediately after vaccination.

Follow appropriate Body Substance Isolation (BSI) precautions, with use of Personal Protective Equipment (PPE).

Standard Precautions: Hand washing before and after all patient contacts and contact with patient care equipment.

Contact Precautions: Use of gloves, gown and eye protection.

Airborne Precautions: Initiate droplet precautions, including wearing masks (fit tested NIOSH approved N-95 respirator) when in contact with patient.

Standard PPE is not sufficient protection, include leg and shoe coverings, face shields, dedicated medical equipment and restricted access of nonessential staff. (*continued*)

24/7 Emergency Contact Number: 1-888-295-5156

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Page 1 of 2



Airborne Precautions (continued from previous page):

A surgical mask should be placed on the patient. If equipment is visibly soiled or significant contact has been made with the patient, REMOVE the protective clothing BEFORE entering areas that are NOT contaminated to prevent transmission of material. The patient is contagious until all scabs have separated.

**Decontamination of PPE
and Equipment:**

Equipment can be decontaminated using soap, water and 0.5% hypochlorite solution (one part household bleach to 10 parts water) can be used as appropriate or if gear had any visible contamination. Note that bleach may damage some types of firefighter turnout gear (one reason why it should not be used for biological agent response actions). After taking off gear, response workers should shower using copious quantities of soap and water.

Prophylaxis:

Post-exposure Vaccination: (priority for vaccination)

Persons exposed to the initial release of the virus; household and face-to-face contacts; personnel who may provide direct healthcare or public health evaluation; laboratory workers responsible for collection or processing specimens; other persons who may be in contact with infectious material (housekeeping, mortuary workers, etc.); other response personnel (law enforcement, EMS, etc.); all individuals present at a hospital during the time that a smallpox patient is present and not properly isolated.

Treatment:

- No antiviral substances have proven effectiveness for smallpox treatment.
- Vaccination administered within 3-4 days of first exposure has been shown to offer some protection against acquiring infection and significant protection against a fatal outcome.

Reporting:

Immediately report any suspect cases to the Division of Public Health, Epidemiology Branch: 1-888-295-5156.

For additional information, view the CDC website: www.bt.cdc.gov